AIRS II overview for
Government Icing Remote Sensing Team

Outline

- AIRS II objectives
- Participants
- Schedule
- Data Protocol
- Some logistics

AIRS II objectives

- Operational Objectives
  a. develop techniques/systems to remotely detect, diagnose and forecast hazardous winter conditions at airports.
  b. improve weather forecasts of aircraft icing conditions.
  c. better characterize the aircraft-icing environment.
  d. improve our understanding of the icing process and its affect on aircraft.

- Science Objectives to support operational objectives
  a. investigate the conditions associated with supercooled large drop formation.
  b. determine conditions governing cloud glaciation.
  c. document the spatial distribution of ice crystals and supercooled water and the conditions under which they co-exist.
  d. verify the response of remote sensors to various cloud particles, and determine how this can be exploited to remotely determine cloud composition.

Participants (as per July Science Plan)

- Canadian
  - MSC
  - NRC
  - Transport Canada
  - Canadian National Search and Rescue
  - Defence Research and Development Canada - Valcartier
  - McGill University
  - Trent University
  - Communication Research Centre
  - Canadian Foundation for Climate and Atmospheric Sciences
- US
  - NASA GRC
  - NCAR
  - NOAA - ETL
  - FAA
  - NSF
  - US Army CRREL
  - Mount Washington Observatory
  - DRI
  - U of Colorado, Purdue, UIUC, MIT, Oregon State University
- Europe
  - British Met Office

Schedule

- Ground systems installation period - Oct 6 to Nov 2
- IOP1 - Nov 3 to Dec 12
- IOP2 - Jan 19 to Feb 13
- All ground ops complete - March 12

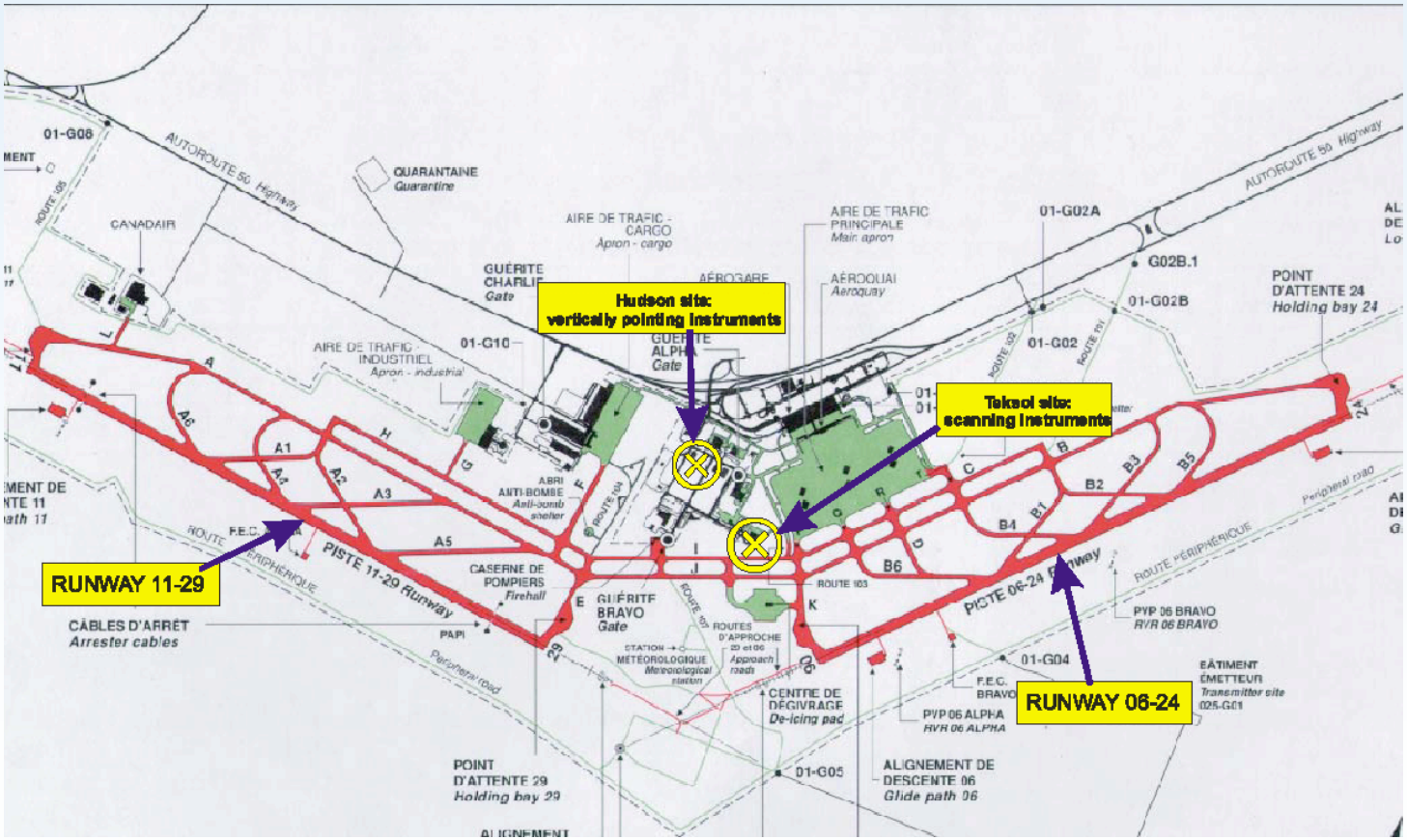
- NOAA GRIDS and NASA NIRSS will participate in IOP1 only
- NASA Twin Otter and C-130 will participate in IOP1 only
  - Twin Otter: Nov 8 to 25 and Dec 1 to 12
  - C-130: Nov 3 to Dec 12

Data Protocol

- All participants must agree to data protocol
- All publications of AIRS II data will acknowledge the funding organizations
- All data will go into MSC archive (if possible) with description of measurement, measurement technique, calibration procedures and results, and quality assessment
- Organizations can release their own data but not that of other AIRS II participants
- When other participant's unpublished data is used, a co-authorship must be offered
- For more details see Appendix B of the AIRS II Science Plan

Some logistics

- Flight ops based in Ottawa (C-130 based at NASA GRC)
- Ground ops based at Mirabel Airport (Montreal)



More logistics

- **Mirabel Instruments**
  - MSC (Met Station)
  - CRC (Radiometer)
  - McGill (VPR and S-Band)
  - DRDC (Lidar)
  - NASA (X-band, Radiometers, Ceilometer)
  - NOAA (GRIDS)